

Chapter 7

DESIGN STUDY REPORT

GENERAL

The Design Study Report (DSR) is an important report that explains the design parameters and serves to document various design decisions that have been made during the preliminary design process.

The information in the DSR can be used to inform the various utilities of the scope of the improvement project. The notices, or letters, that are sent to the utilities should contain a synopsis of the project. The information for the synopsis can be obtained by reading the DSR and by talking to the Project Manager.

The file copy of the DSR should be routed through the Utility Unit. They will make copies of the portions of the DSR that will assist in explaining the project. The Utility Unit should always be notified of any changes to the design that may affect the utilities on the project.

REPORT FORMAT

The DSR, as stated in the Facilities Development Manual [Procedure 3-15-25](#), should include a discussion of potential conflicts between the proposed highway improvement and the existing utility facilities in the area.

In the discussion of the **present facility**, the UTILITY section is between STRUCTURES and RAILROAD CROSSINGS. In this section, the designer should explain in general terms what utility facilities are in the project area. For example, if there is a telephone cable or a gas main attached to the underside of a bridge, this should be mentioned because it will have an impact on how the bridge can be reconstructed or redecked and it will affect the cost of the project. Also, if there is a large utility facility, such as an electrical substation, a sanitary sewer lift station, a gas pipeline regulator pit, or any other large and/or expensive utility facility, this should be mentioned in the DSR because it will have an impact on your final design decisions. (Avoiding a sanitary sewer lift station will save money but limits your alignment choices.)

In the discussion of the **proposed improvement**, the UTILITY section is between REAL ESTATE and RAILROADS. This section of the DSR should explain how the utility facilities are going to be accommodated in the proposed design. For example, how are the cables or mains going to be supported during the redecking or replacement of the bridge? Are we building a retaining wall, or providing beam guard protection to avoid moving a gas regulator pit? Are we going to adjust the fence location to assure that the utility poles are outside of the fence? Will we adjust the locations of sound barriers, landscaping, signs, inlets, or manholes to avoid conflicts with existing utility facilities? Are we shifting the alignment to avoid relocating a sanitary sewer lift station? Are we buying sufficient right-of-way to accommodate utility facilities? These are the kinds of things that should be mentioned in this section of the DSR.

It should be noted that the Utility Accommodation Policy discourages utility facility attachments to structures. Any attachment to a structure requires an agreement with the utility and approval of the Maintenance Unit of the Region SPO Section. Current statewide opinion is that attachment to a structure should be the last resort, and only considered after the utility company has proven that other alternatives are either impractical or that they would cause an economic hardship. For additional discussion on utility attachments to structures, see [Chapter 4](#), Figure 4-3, "Utility Accommodation on Structures Policy."

An example of the utility portions of a Design Study Report is shown in [Figure 7-1](#). If you have any questions about what to include in the UTILITY section of the DSR for your project, contact the Utility Coordinator for your area. A list of the Utility Coordinators is included in Chapter 1, [INTRODUCTION](#), of this WisDOT Guide to Utility Coordination.

AFTER THE DESIGN STUDY REPORT

The Designer should always think about possible impacts on utilities when making changes to the plan. This is one aspect of design that is often overlooked. **Trans. 220 requires that the Designer send the utility company a copy of the final plan with all of the changes from the previously submitted plan highlighted.**

For a typical plan, the Designer will send a plan to the utility company that is complete enough for the utility company to determine conflicts with their facilities and to do their design. This plan is normally sent shortly after the DSR and/or right-of-way plat is completed. Any changes made after that time must be highlighted and sent to the utility companies with an extension of the utility work plan due date. It is the Designer's responsibility to keep track of all changes, and to notify the utilities about those changes.

Design Study Report
Project ID 5390-01-03
Janesville - Edgerton Road
(CTH "F" Bridge)
USH 51 Rock County

PRESENT FACILITY

STRUCTURES

B-53-469: The existing structure is a 190 foot concrete 3-span bridge over CTH "F" which was built in 1939. It has a sufficiency rating of 18.8. A 1-1/2 inch asphaltic overlay was added in 1978.

* CLEAR ROADWAY WIDTH The clear roadway width is 30 feet

* STRUCTURE CAPACITY 20 Ton

UTILITIES

AT&T, Inc. has a 600-pair underground cable attached to the bridge in conduit. The City of Janesville has a 30-inch gravity flow sanitary sewer attached to the bridge.

Verizon has a telecommunication vault in the USH 51/Snake Road intersection. This is a major junction facility with an estimated relocation cost of \$1 million.

RAILROAD CROSSINGS

None

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PROPOSED IMPROVEMENT

UTILITIES

AT&T Inc. was informed that WisDOT discourages utility attachments to bridges. AT&T is assessing alternative routes and will relocate their facility off of the proposed structure.

The City of Janesville will attach their 30-inch gravity flow sanitary sewer to the proposed structure. They have investigated other possible locations for this sanitary sewer and because of the gravity flow were unable to find a practical alternative. The City will provide the necessary design information needed to accommodate their sewer to the bridge designer. The City has received preliminary approval to attach to the bridge from the Maintenance Unit of the Region SPO Section.

The profile and drainage system has been designed to avoid relocation of the Verizon vault at the USH 51/Snake Road intersection.

RAILROADS – None